

1. What is the IP address used by your computer (**source**)?

192.168.0.9

2. On what port number is your computer sending and receiving TCP segments for this connection?

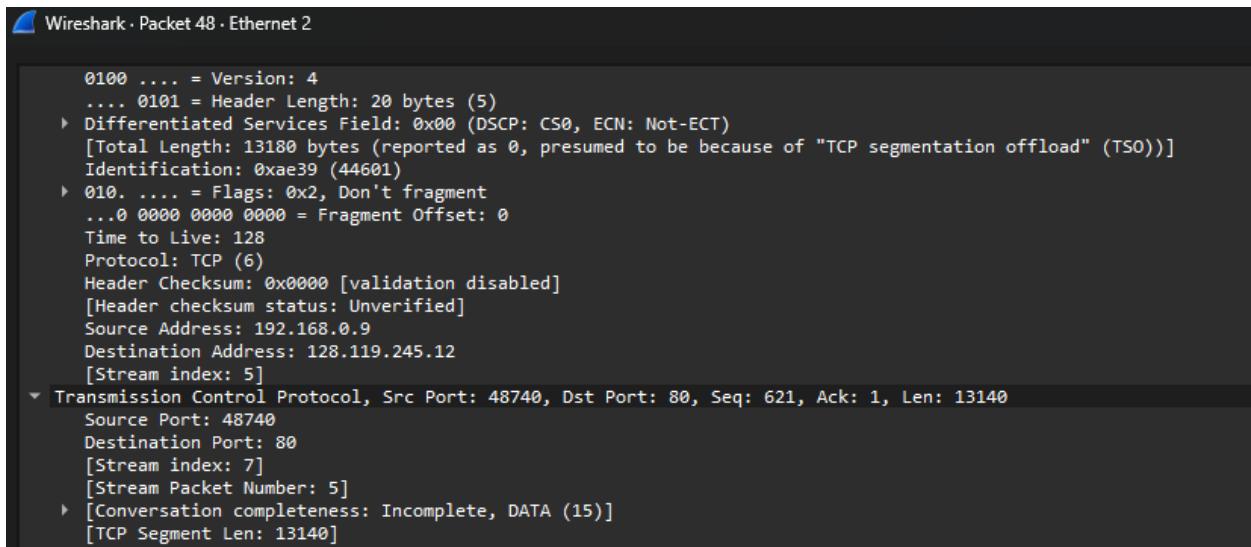
48740

3. What is the IP address of gaia.cs.umass.edu? (**Destination**)

128.119.245.12

4. On what port number is gaia.cs.umass.edu sending and receiving TCP segments for this connection?

80



Wireshark - Packet 48 · Ethernet 2

```
0100 .... = Version: 4
.... 0101 = Header Length: 20 bytes (5)
▶ Differentiated Services Field: 0x00 (DSCP: CS0, ECN: Not-ECT)
[Total Length: 13180 bytes (reported as 0, presumed to be because of "TCP segmentation offload" (TSO))]
Identification: 0xae39 (44601)
▶ 010. .... = Flags: 0x2, Don't fragment
...0 0000 0000 0000 = Fragment Offset: 0
Time to Live: 128
Protocol: TCP (6)
Header Checksum: 0x0000 [validation disabled]
[Header checksum status: Unverified]
Source Address: 192.168.0.9
Destination Address: 128.119.245.12
[Stream index: 5]
▼ Transmission Control Protocol, Src Port: 48740, Dst Port: 80, Seq: 621, Ack: 1, Len: 13140
  Source Port: 48740
  Destination Port: 80
  [Stream index: 7]
  [Stream Packet Number: 5]
  ▶ [Conversation completeness: Incomplete, DATA (15)]
  [TCP Segment Len: 13140]
```

Additional note: Because this is Http and not Https your File is sent in plain text and you can find the story divided up in the tcp traffic:

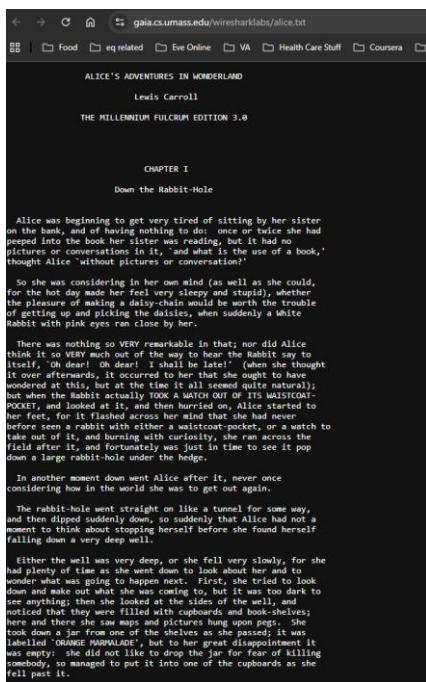
...6<---- ----WebK
itFormBo undary7b
p2wsk8SQ aALUqM..
Content- Disposit
ion: for m-data;
name="fi le"; fil
ename="a lice.txt
" ..Content-Type:
text/plain....
A
LICE'S A DVENTURE
S IN WON DERLAND.
...
Lew
is Carro ll....
THE
MILLENN IUM FULC
RUM EDIT ION 3.0.
..... .
CHA PTER I..
..
Down the
Rabbit- Hole....
.. Alic e was be
ginning to get v
ery tire d of sit
ting by her sist
er..on t he bank,
and of having n
othing t o do: o
nce or t wice she
had..pe eped int
o the bo ok her s
ister wa s readin
g, but i t had no
..pictur es or co

Summary:

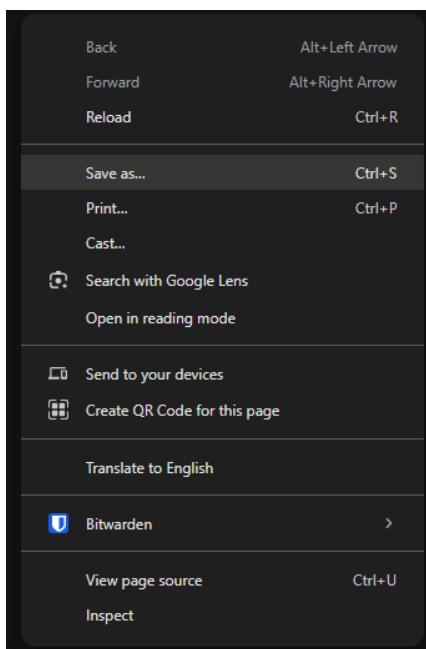
The first step of this lab is to go to the following page:

<http://gaia.cs.umass.edu/wiresharklabs/alice.txt>

It will look like this:



You then want to save it to a text file. You can do this by right clicking and Clicking save as
Like below (Take note of where you are saving the file as you will need it later):



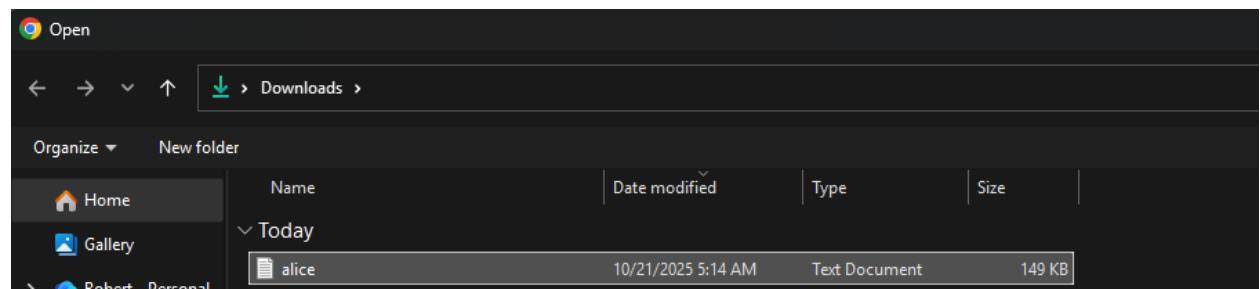
Once you save the file you will want to navigate to the following page:

<http://gaia.cs.umass.edu/wireshark-labs/TCP-wireshark-file1.html>

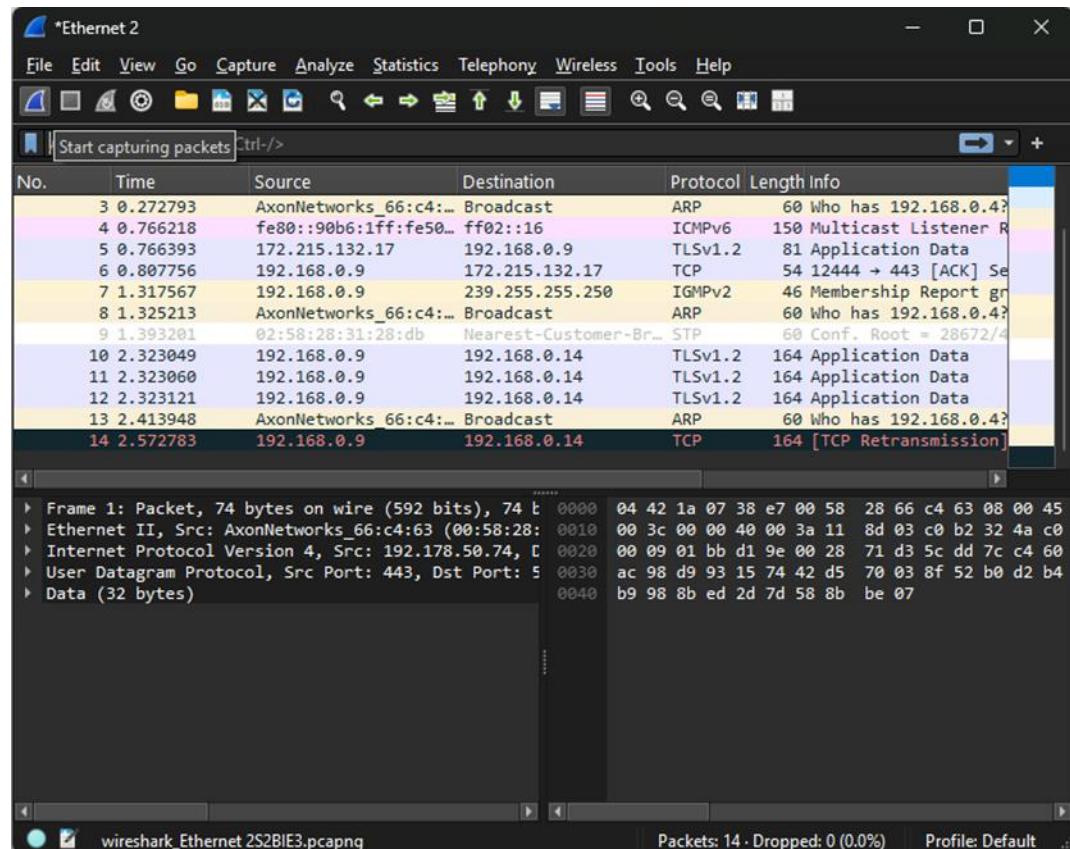
The page looks like this:

Upload page for TCP Wireshark Lab
Computer Networking: A Top Down Approach, 8th edition
Copyright 2012 J.F. Kurose and K. Ross, All Rights Reserved
If you have followed the instructions for the TCP Wireshark Lab, you have already downloaded an ASCII copy of Alice and Wonderland from <http://gaia.cs.umass.edu/wireshark-labs/alice.txt> and you also already have the Wireshark packet sniffer running and capturing packets on your computer.
Click on the Browse button below to select the directory/file name for the copy of alice.txt that is stored on your computer.
Choose File No file chosen
Once you have selected the file, click on the "Upload alice.txt file" button below. This will cause your browser to send a copy of alice.txt over an HTTP connection (using TCP) to the web server at gaia.cs.umass.edu. After clicking on the button, wait until a short message is displayed indicating the upload is complete. Then stop your Wireshark packet sniffer - you're ready to begin analyzing the TCP transfer of alice.txt from your computer to gaia.cs.umass.edu!
Upload alice.txt file

Next, on the page click Browse or Choose File button a window will appear, select the “alice.txt” document you downloaded in the previous step the window looks like this:



Once your ready start Wireshark and begin capturing traffic, you can do this by clicking the shark fin or by selecting the apator you want to capture traffic from. See below:



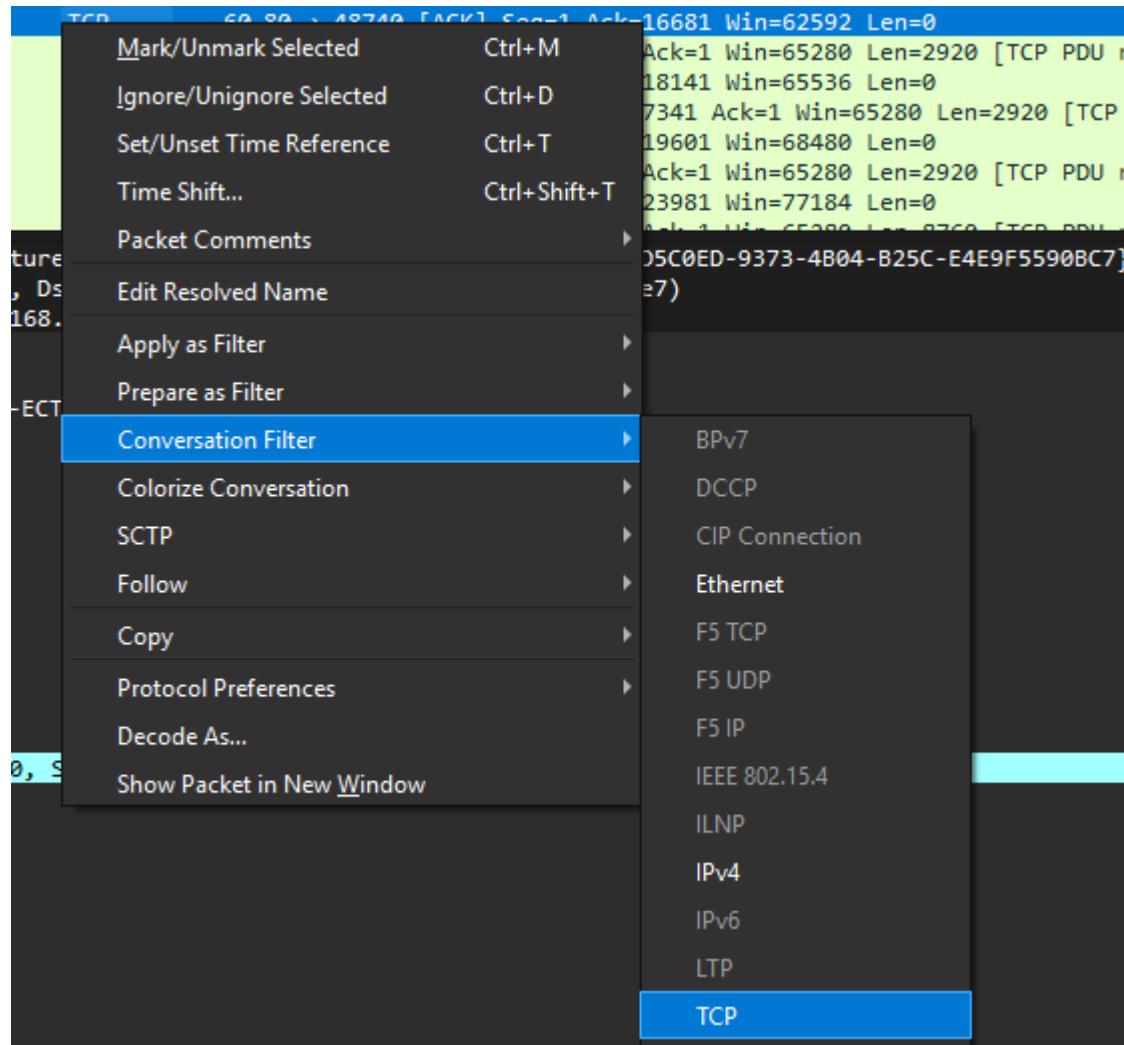
With Wireshark running, return to the web browser and click the Upload alice.txt button seen below:

Once you have selected the file, click on the "Upload alice.txt file" button below. This will cause your browser to send a copy of alice.txt over an HTTP connection (using TCP) to the web server at gaia.cs.umass.edu. After clicking on the button, wait until a short message is displayed indicating the upload is complete. Then stop your Wireshark packet sniffer

[Upload alice.txt file]

You should get a Success message from the Website. After this message is received.

Return to Wireshark and Stop the packet capture. Find the packets that are heading out with the message in plain text and right click on and click “Filter Conversation with the TCP option” See below:



Here we can See the Originating Syn, Syn,Ack , Ack:

27 3.888874	192.168.0.9	128.119.245.12	TCP	66 48740 → 80 [SYN] Seq=0 Win=65535 Len=0 MSS=1460 WS=256 SACK_PERM
29 3.939935	128.119.245.12	192.168.0.9	TCP	66 80 → 48740 [SYN, ACK] Seq=0 Ack=1 Win=29200 Len=0 MSS=1460 SACK_PERM WS=128
30 3.940011	192.168.0.9	128.119.245.12	TCP	54 48740 → 80 [ACK] Seq=1 Ack=1 Win=65280 Len=0

The upload traffic should look like this:

*	47 5.005549	192.168.0.9	128.119.245.12	TCP	674 48740 + 80	[PSH, ACK] Seq=1 Ack=1 Win=6280 Len=620 [TCP PDU reassembled in 118]
*	48 5.005665	192.168.0.9	128.119.245.12	TCP	13194 48740 + 80	[ACK] Seq=621 Ack=1 Win=65280 Len=13140 [TCP PDU reassembled in 118]
*	49 5.056123	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=621 Win=30464 Len=0
*	50 5.056173	192.168.0.9	128.119.245.12	TCP	1514 48740 + 80	[ACK] Seq=13761 Ack=1 Win=65280 Len=1460 [TCP PDU reassembled in 118]
*	51 5.056200	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=2081 Win=33408 Len=0
*	52 5.056208	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[PSH, ACK] Seq=15221 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	53 5.056254	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=5001 Win=39296 Len=0
*	54 5.056261	192.168.0.9	128.119.245.12	TCP	5894 48740 + 80	[ACK] Seq=18141 Ack=1 Win=65280 Len=5840 [TCP PDU reassembled in 118]
*	55 5.056328	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=6461 Win=42240 Len=0
*	56 5.056336	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=1 Ack=23981 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	57 5.056385	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=18081 Win=50944 Len=0
*	58 5.056391	192.168.0.9	128.119.245.12	TCP	8814 48740 + 80	[PSH, ACK] Seq=26901 Ack=1 Win=65280 Len=8760 [TCP PDU reassembled in 118]
*	59 5.056456	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=12391 Win=53888 Len=0
*	60 5.056470	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=35661 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	61 5.064325	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=13761 Win=56832 Len=0
*	62 5.064344	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=38581 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	63 5.105215	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=15221 Win=59648 Len=0
*	64 5.105249	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=41501 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	65 5.105984	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=16681 Win=62592 Len=0
*	66 5.106008	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=44421 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	67 5.108068	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=18141 Win=65536 Len=0
*	68 5.108087	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[PSH, ACK] Seq=1 Ack=7341 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	69 5.110133	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=19601 Win=64840 Len=0
*	70 5.110149	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=50261 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	71 5.110195	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=23981 Win=77184 Len=0
*	72 5.110204	192.168.0.9	128.119.245.12	TCP	8814 48740 + 80	[ACK] Seq=53181 Ack=1 Win=65280 Len=8760 [TCP PDU reassembled in 118]
*	73 5.111587	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=25441 Win=80128 Len=0
*	74 5.111600	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=61941 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	75 5.111652	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=26901 Win=83072 Len=0
*	76 5.111658	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[PSH, ACK] Seq=64861 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	77 5.111720	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=28361 Win=86016 Len=0
*	78 5.111733	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=67781 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	79 5.111775	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=35561 Win=100608 Len=0
*	80 5.111789	192.168.0.9	128.119.245.12	TCP	14654 48740 + 80	[PSH, ACK] Seq=70701 Ack=1 Win=65280 Len=14600 [TCP PDU reassembled in 118]
*	81 5.111838	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=37121 Win=103552 Len=0
*	82 5.111846	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=85301 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	83 5.111887	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=38581 Win=106368 Len=0
*	84 5.111894	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=88221 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	85 5.111942	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=40041 Win=109312 Len=0
*	86 5.111948	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=91141 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	87 5.111999	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=41501 Win=112256 Len=0
*	88 5.112005	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=94061 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	89 5.153517	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=42961 Win=115200 Len=0
*	90 5.153552	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[PSH, ACK] Seq=96981 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	91 5.153576	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=44421 Win=118144 Len=0
*	92 5.153584	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=99961 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	93 5.153643	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=45881 Win=120960 Len=0
*	94 5.153652	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=102821 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	95 5.153711	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=47341 Win=123904 Len=0
*	96 5.153728	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=105741 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	97 5.155057	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=48861 Win=126448 Len=0
*	98 5.155067	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=108661 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	99 5.155115	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=50261 Win=129792 Len=0
*	100 5.155122	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[ACK] Seq=111581 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]
*	101 5.158122	128.119.245.12	192.168.0.9	TCP	60 80 + 48740	[ACK] Seq=1 Ack=51721 Win=132736 Len=0
*	102 5.158197	192.168.0.9	128.119.245.12	TCP	2974 48740 + 80	[PSH, ACK] Seq=114501 Ack=1 Win=65280 Len=2920 [TCP PDU reassembled in 118]

You will then see a bunch of TCP traffic ending with a Http Post message. This is the connection acknowledging the end of the upload and sending you to the congratulations page.

It should look like this:

118	5.159866	192.168.0.9	128.119.245.12	HTTP	3455	POST /wireshark-labs/lab3-1-reply.htm HTTP/1.1 (text/plain)
119	5.159895	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=85301 Win=183296 Len=0
120	5.159909	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=69241 Win=167680 Len=0
121	5.159915	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=86761 Win=182528 Len=0
122	5.159952	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=88221 Win=181632 Len=0
123	5.159973	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=70701 Win=170624 Len=0
124	5.159973	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=89681 Win=180608 Len=0
125	5.160009	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=91141 Win=179584 Len=0
126	5.160029	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=72161 Win=173568 Len=0
127	5.160036	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=92601 Win=179072 Len=0
128	5.160066	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=94061 Win=178048 Len=0
129	5.160089	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=76541 Win=174592 Len=0
130	5.160089	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=95521 Win=177152 Len=0
131	5.160125	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=96981 Win=176128 Len=0
132	5.200965	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=98441 Win=183296 Len=0
133	5.200965	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=99901 Win=182528 Len=0
134	5.200965	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=101361 Win=181632 Len=0
135	5.200965	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=102821 Win=180608 Len=0
136	5.200965	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=104281 Win=179584 Len=0
137	5.200995	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=105741 Win=178560 Len=0
138	5.201027	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=108661 Win=183296 Len=0
139	5.201551	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=110121 Win=186112 Len=0
140	5.201551	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=111581 Win=189056 Len=0
141	5.201639	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=113041 Win=192000 Len=0
142	5.201639	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=114501 Win=194944 Len=0
143	5.204869	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=115961 Win=197888 Len=0
144	5.204869	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=117421 Win=200704 Len=0
145	5.204869	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=118881 Win=203648 Len=0
146	5.204869	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=120341 Win=206592 Len=0
147	5.204869	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=121801 Win=209536 Len=0
148	5.204869	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=123261 Win=212480 Len=0
149	5.204892	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=124721 Win=215424 Len=0
150	5.204901	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=129101 Win=224128 Len=0
151	5.204901	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=136401 Win=238720 Len=0
152	5.204946	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=137861 Win=241664 Len=0
153	5.205517	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=139321 Win=244608 Len=0
154	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=140781 Win=247424 Len=0
155	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=142241 Win=250368 Len=0
156	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=143701 Win=253312 Len=0
157	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=145161 Win=256256 Len=0
158	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=146621 Win=259200 Len=0
159	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=148081 Win=262144 Len=0
160	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=149541 Win=264960 Len=0
161	5.206823	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=151001 Win=267904 Len=0
162	5.206914	128.119.245.12	192.168.0.9	TCP	60	80 → 48740 [ACK] Seq=1 Ack=152942 Win=271744 Len=0
163	5.207055	128.119.245.12	192.168.0.9	HTTP	831	HTTP/1.1 200 OK (text/html)
166	5.260145	192.168.0.9	128.119.245.12	TCP	54	48740 → 80 [ACK] Seq=152942 Ack=778 Win=64512 Len=0

You should now be able to easily answer the questions Below:

1. What is the IP address used by your computer (source)?
2. On what port number is your computer sending and receiving TCP segments for this connection?
3. What is the IP address of gaia.cs.umass.edu? (Destination)
4. On what port number is gaia.cs.umass.edu sending and receiving TCP segments for this connection?